

## Product datasheet for **RC239092**

### Acetylcholinesterase (ACHE) (NM\_001302622) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Acetylcholinesterase (ACHE) (NM_001302622) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Acetylcholinesterase
Synonyms:	ACEE; ARACHE; N-ACHE; YT
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC239092 representing NM\_001302622  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGAGGCCCCCGCAGTGTCTGCTGCACACGCCTTCCCTGGCTTCCCCTCCTTCTCCTCCTCCTGCG  
 TCCTGGGTGGAGGAGTGGGGCTGAGGGCCGGGAGGATGCAGAGCTGCTGGTGACGGTGCCTGGGGGCCG  
 GCTGCGGGCATTTCGCTGAAGACCCCGGGGGCCCTGTCTGCTTTCTGGGCATCCCCTTTCGGGAG  
 CCACCCATGGGACCCCGTCGTTTCTGCCACCGGAGCCCAAGCAGCCTTGGTCAGGGGTGGTAGACGCTA  
 CAACCTTCCAGAGTGTCTGCTACCAATATGTGGACACCTATAACCAGGTTTTGAGGGCACCGAGATGTG  
 GAACCCCAACCGTGAGCTGAGCGAGGACTGCCTGTACCTCAACGTGTGGACACCATAACCCCGCCCTACA  
 TCCCCACCCCTGCTCCTGCTGGATCTATGGGGTGGCTTCTACAGTGGGGCTCCTCCTTGGACGTGT  
 ACGATGGCCGCTTCTTGGTACAGGCCGAGAGGACTGTGCTGGTGTCCATGAACACCGGGTGGGAGCCTT  
 TGGCTTCTGGCCCTGCCGGGAGCCGAGAGGCCCGGGCAATGTGGGTCTCCTGGATCAGAGGCTGGCC  
 CTGCAGTGGGTGCAGGAGAACGTGGCAGCCTTCGGGGTGGCCGACATCAGTGACGCTGTTTGGGGAGA  
 GCGCGGGAGCCGCTCGGTGGGCATGCACCTGCTGTCCCCGCCAGCCGGGGCTGTTCCACAGGGCCGT  
 GCTGCAGAGCGGTGCCCCAATGGACCTGGGCCACGGTGGGCATGGGAGAGGCCGTGCGAGGGCCACG  
 CAGCTGGCCACCTTGTGGGCTGTCTCCAGGCCGCACTGGTGGGAATGACACAGAGCTGGTAGCCTGCC  
 TTCGGACACGACAGCGCAGGCTCCTGGTGAACCACGAATGGCAGCTGCTGCCTCAAGAAAGCGTCTTCCG  
 GTTCTCCTTCTGCTGTGGTAGATGGAGACTTCTCAGTGACACCCAGAGGCCCTCATCAACGCGGGA  
 GACTTCCACGGCTGCAGGTGCTGGTGGTGTGGTGAAGGATGAGGGCTCGATTTTCTGGTTTACGGGG  
 CCCCAGGCTTACGAAAGACAACGAGTCTCTCATCAGCCGGCCGAGTTCTGGCCGGGTGCGGGCTCGG  
 GGTTCCCAAGTAAGTGACCTGGCAGCCGAGGCTGTGGTCTGCATTACACAGACTGGCTGCATCCCGAG  
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 GCTCTCTGGCCCTGTGGATGGGGTGGCCACGGCTACGAGATCGAGTTATCTTTGGGATCCCCCTG  
 GACCCCTCTCGAACTACACGGCAGAGGAGAAAATCTTCGCCAGCGACTGATGCGATACTGGGCCAACT  
 TTGCCCGCACAGGGATCCCAATGAGCCCCGAGACCCCAAGGCCCAATGGCCCCGTACACGGCGGG  
 GGCTCAGCAGTACGTTAGTCTGGACCTGCGGCCGCTGGAGGTGCGGCGGGGGCTGCGGCCACGGCTGC  
 GCCTTCTGGAACCGCTTCTCCCAAATGCTCAGCGCCACCGACGCTCGACGAGCGGAGCGCCAGT  
 GGAAGGCCGAGTCCACCGCTGGAGCTCTACATGGTGCCTGGAAGAACCAGTTCGACCACTACAGCAA  
 GCAGGATCGCTGCTCAGACCTG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

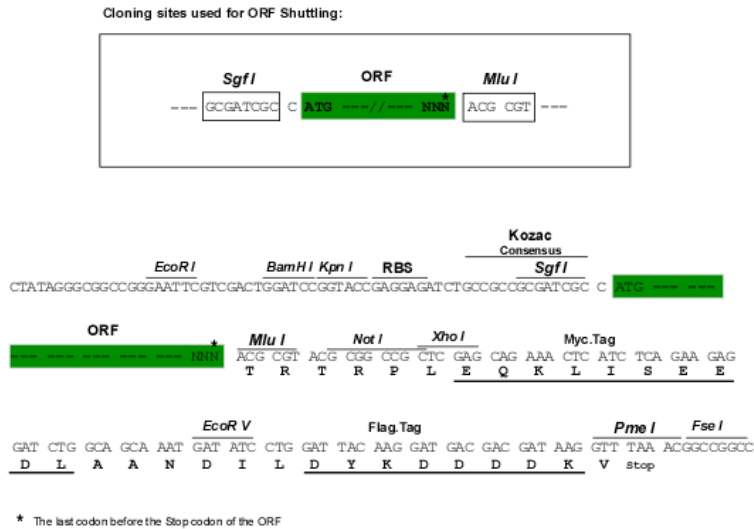
>RC239092 representing NM\_001302622  
 Red=Cloning site Green=Tags(s)

MRPPQCLLHTPSLASPLLLLLLWLLGGVGVAEGREDAELLVTVRGGRLRGIRLKTGPGPVSAFLGIPFAE  
 PPMGPRRFLPPEPKQPWSGVVDATTFQSVCYQYVDLTPGFEGTEMWNPNSRELSEDCLYLNWTPYPRPT  
 SPTPVLVWIYGGGFYSGASSLDVYDGRFLVQAERTVLSVMNYRVGAFGLALPGSREAPGNVGLLDQRLA  
 LQWVQENVAAFGGDPTSVTLFGESAGAASVGMHLLSPPSRGLFHRAVLQSGAPNGPWATVGMGEARRRAT  
 QLAHLVGCPPGGTGGNDTELVACLRTRPAQVLVNHEWHVLPQESVFRFSFVVPVVDGDFLSDTPEALINAG  
 DFHGLQVLVGVKDEGSYFLVYGAPGFSKDNESLISRAEFLAGVRVGPVQVSDLAEEAVVLHYTDWLHPE  
 DPARLREALSDVVDHNVVCPVAQLAGRLAAQGARVYAYVFEHRASLWPLWMGVPHGYEIEFIFGIPL  
 DPSRNYTAEKIFAQRLMRYWANFARTGDPNEPRDPKAPQWPPYTAGAQQYVSLDLRPLEVRRGLRAQAC  
 AFWNRFLPKLLSATDLDLDEAERQWKAEFHRWSSYVHWNQFDHYSKQDRCSL

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_001302622

ORF Size: 1842 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM\\_001302622.2](#)

RefSeq Size: 2156 bp

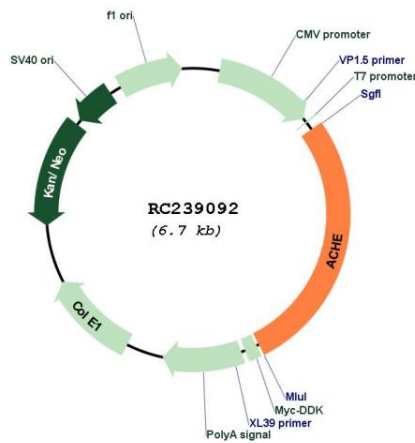
RefSeq ORF: 1845 bp

Locus ID: 43

UniProt ID: [P22303](#)

<b>Cytogenetics:</b>	7q22.1
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Glycerophospholipid metabolism
<b>MW:</b>	67.8 kDa
<b>Gene Summary:</b>	<p>Acetylcholinesterase hydrolyzes the neurotransmitter, acetylcholine at neuromuscular junctions and brain cholinergic synapses, and thus terminates signal transmission. It is also found on the red blood cell membranes, where it constitutes the Yt blood group antigen. Acetylcholinesterase exists in multiple molecular forms which possess similar catalytic properties, but differ in their oligomeric assembly and mode of cell attachment to the cell surface. It is encoded by the single ACHE gene, and the structural diversity in the gene products arises from alternative mRNA splicing, and post-translational associations of catalytic and structural subunits. The major form of acetylcholinesterase found in brain, muscle and other tissues is the hydrophilic species, which forms disulfide-linked oligomers with collagenous, or lipid-containing structural subunits. The other, alternatively spliced form, expressed primarily in the erythroid tissues, differs at the C-terminal end, and contains a cleavable hydrophobic peptide with a GPI-anchor site. It associates with the membranes through the phosphoinositide (PI) moieties added post-translationally. AChE activity may constitute a sensitive biomarker of RBC ageing in vivo, and thus, may be of aid in understanding the effects of transfusion[provided by RefSeq, Sep 2019]</p>

**Product images:**



Circular map for RC239092